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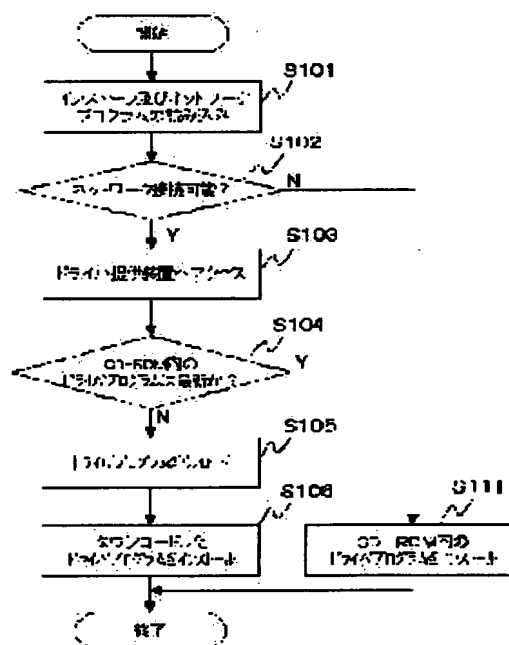
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(54) COMPUTER PROGRAM, RECORDING MEDIUM AND INFORMATION PROCESSOR

(57)Abstract:

PROBLEM TO BE SOLVED: To set up a printer driver by installing either of plural driver programs.

SOLUTION: A printer host reads an installer and a network process from a CD-ROM (S101). When the printer host is connectable to a network (S102), a driver providing device which provides a printer driver program is accessed (S103). The driver providing device determines if the program in the CD-ROM is the newest one (S104). If it is not the newest one, the newest program is downloaded and installed (S105 and 106). When the printer host is not connectable to the network and the program in the CD-ROM is the newest one, the program in the CD-ROM is installed (S111).



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CLAIMS

[Claim(s)]

[Claim 1] It is the record medium which recorded the 1st printer driver program and a computer program. Said computer program When the 2nd printer driver program is acquired from said printer driver offer equipment through a network with the processing which acquires the 2nd printer driver program from the offer equipment which offers a printer driver program, When the 2nd printer driver is unacquirable from said printer driver offer equipment with the processing which installs the 2nd printer driver program concerned, The record medium which is the thing which makes a computer perform processing which installs said 1st printer driver program.

[Claim 2] Said computer program is a record medium according to claim 1 which is the thing which makes a computer perform further processing which memorizes the information which shows whether the 2nd printer driver program was acquired from said printer driver offer equipment in the storage section.

[Claim 3] Said computer program is a record medium given in either of claims 1 or 2 which are those in which a computer is made to perform further processing containing the 1st version or updating date of a printer driver program for outputting the identification information of the 1st printer driver program, and the identification information of the 2nd printer driver program contains the 1st version higher than printer driver program or new updating date.

[Claim 4] Said computer program contains the 2nd version or updating date of a printer driver program. The identification information of the 2nd printer driver program is acquired from said printer driver offer equipment. The 1st version or updating date of a printer driver program is included. It is the thing which makes a computer perform further processing in comparison with the identification information of the 1st printer driver program. When the identification information of the 2nd printer driver program contains the 1st [said] version higher than printer driver program or new updating date, A record medium given in either of claims 1 or 2 which are what acquires the 2nd printer driver program from said printer driver offer equipment.

[Claim 5] The computer program which makes a computer perform the processing which installs the processing which acquires the 2nd printer driver program from the offer equipment which offers a printer driver program through a network, the processing which install the 2nd printer driver program concerned when the 2nd printer driver program is acquired from said printer driver offer equipment, and the 1st printer driver program currently recorded on a record medium when the 2nd printer driver cannot acquire from said printer driver offer equipment.

[Claim 6] An information processor equipped with a printer driver, the flag which shows whether it accessed to driver offer equipment, a means judge whether access to driver offer equipment is possible when it is shown that said flag has not accessed to driver offer equipment, a means download a printer driver program from said driver offer equipment when accessible, and a means install the downloaded printer driver program and update a printer driver.

[Claim 7] When it is shown that the printer driver, the flag which shows whether it accessed to printer driver offer equipment, and said flag have not accessed to driver offer equipment, A means to judge whether it is accessible to printer driver offer equipment, and when accessible, A means to download a printer driver program from said driver offer equipment, and when directions of renewal of a printer driver are received from a user An information processor

equipped with a means to download a printer driver program from said driver offer equipment irrespective of the contents of said flag, and a means to install the downloaded printer driver program and to update a printer driver.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the technique for installing a printer driver.

[0002]

[Background of the Invention] The printer driver which controls a printer is realized by installing the program (driver program) of dedication in a printer host. This driver program is recorded on record media, such as CD-ROM, and is attached to the printer product.

[0003] The thing at the time of the driver program currently recorded on this CD-ROM manufacturing CD-ROM is recorded. Therefore, even if a new driver program may be offered after it, a new driver program is not memorized by this CD-ROM. That is, the driver program in CD-ROM attached to a printer product is not always the newest thing.

[0004] Moreover, the thing corresponding to the language of each country in the printer driver which a manufacturer offers is prepared, and the thing of a special specification also exists. However, one most standard thing usually corresponding to the language of a selling area in the driver program in CD-ROM attached to a printer product is only contained. For this reason, a user does not have the room of selection of a printer driver.

[0005] Then, this invention aims at offering the technique for installing either among two or more driver programs, and setting up a printer driver.

[0006]

[Means for Solving the Problem] In order to attain said purpose, according to the first mode of this invention, the 1st printer driver program, It is the record medium which recorded the computer program. Said computer program When the 2nd printer driver program is acquired from said printer driver offer equipment through a network with the processing which acquires the 2nd printer driver program from the offer equipment which offers a printer driver program, A computer is made to perform processing which installs the 2nd printer driver program concerned, and processing which installs said 1st printer driver program when the 2nd printer driver cannot be acquired from said printer driver offer equipment.

[0007] If a computer is made to perform processing based on this record medium, either of the printer driver programs stored in the printer driver program acquired via the network or the record medium concerned is installable.

[0008] You may make it said computer program make a computer perform further preferably processing which memorizes the information which shows whether the 2nd printer driver program was acquired from said printer driver offer equipment in the storage section in the above-mentioned mode.

[0009] Thereby, it is memorizable whether the 2nd printer driver program was acquirable from printer driver offer equipment.

[0010] Moreover, said computer program makes a computer perform further processing containing the 1st version or updating date of a printer driver program for outputting the identification information of the 1st printer driver program, and you may make it the identification information of the 2nd printer driver program contain the 1st version higher than printer driver program or new updating date in the above-mentioned mode.

[0011] In the above-mentioned mode or said computer program The 2nd version or updating date of a printer driver program is included. The identification information of the 2nd printer driver program is acquired from said printer driver offer equipment. The 1st version or updating date of a printer driver program is included. It is the thing which makes a computer perform further processing in comparison with the identification information of the 1st printer driver program. When the identification information of the 2nd printer driver program contains the 1st [said] version higher than printer driver program or new updating date, you may make it acquire the 2nd printer driver program from said printer driver offer equipment.

[0012] Thereby, the 2nd printer driver program newer than the 1st printer driver program can be acquired and installed.

[0013] According to the second mode of this invention, a network is minded in order to attain said purpose. When the 2nd printer driver program is acquired from said printer driver offer equipment with the processing which acquires the 2nd printer driver program from the offer equipment which offers a printer driver program, When the 2nd printer driver is unacquirable from said printer driver offer equipment with the processing which installs the 2nd printer driver program concerned, The computer program which makes a computer perform processing which installs the 1st printer driver program currently recorded on the record medium is offered.

[0014] When it is shown that the printer driver, the flag which shows whether it accessed to driver offer equipment, and said flag have not accessed to driver offer equipment according to the third mode of this invention in order to attain said purpose, A means to judge whether it is accessible to driver offer equipment, and when accessible, An information processor equipped with a means to download a printer driver program from said driver offer equipment, and a means to install the downloaded printer driver program and to update a printer driver is offered.

[0015] Thereby, even if it cannot access to driver offer equipment at the beginning at the time of a setup, a printer driver can be updated when it can access.

[0016]

[Embodiment of the Invention] Hereafter, the operation gestalt of this invention is explained using a drawing.

[0017] Drawing 1 is drawing showing the configuration of the network system concerning the operation gestalt which applied this invention. The driver offer equipment 1 with which this system offers a driver program, and the printer host 2 are connected through the network 9. The printer host 2 may be plural. A printer 3 is connectable with the printer host 2. The printer host 2 has the CD drive 21 for equipping with CD-ROM4. The information mentioned later is recorded on CD-ROM4, for example.

[0018] Driver offer equipment 1 and the printer host 2 are all constituted by the computer system. Each configuration or each function to explain below is realized when a computer executes a predetermined program.

[0019] Information as shown in drawing 2 is memorized by CD-ROM4. That is, it is installed in the printer host 2, and becomes a printer driver, and the driver program 41 for operating the printer host 2 as a printer control device, the network program 42 for the printer host 2 to perform the equipment and the communication link which were connected to the network 9, and the installer (install program) 43 for installing the driver program 41 in the printer host 2 are memorized. Identification information 41a for identifying a driver program is included in the driver program 41. The group of the part number of for example, a driver program, and a version information and/or an updating date is sufficient as identification information 41a.

[0020] The printer host's 2 internal function is explained using drawing 3. The printer host 2 has CD drive control section 31 for controlling the CD drive 21. CD drive control section 31 controls CD-ROM drive 21, and reads the information memorized by CD-ROM4. And the printer host 2 performs the installer 43 which CD drive control section 31 read from CD-ROM4, and realizes the install processing section 32. Similarly, the printer host 2 performs the network program 42 which CD drive control section 31 read from CD-ROM4, and realizes the network computation section 33.

[0021] The install control section 32 performs processing for installing a driver program. Specifically, the install control section 32 directs download of the newest driver program to the

network computation section 33. When the network computation section 33 cannot access to driver offer equipment 1, or when [since the driver 41 in CD-ROM4 is the newest,] it is not necessary to download, the install control section 32 installs the driver program 41 in CD-ROM4. On the other hand, when the network computation section 33 downloads the newest driver program, the install control section 32 installs the newest driver program memorized by the buffer 34. If a driver program is installed, a printer driver 35 will be realized.

[0022] A printer driver 35 controls a printer 3, in order to perform printing. In a printer driver 35, it has the field which memorizes the network reference flag 36. The network reference flag 36 is a flag which shows whether it has accessed to driver offer equipment 1 ("un-accessing").

["finishing / access /" or] The install control section 32 sets up at the time of the setup of a printer driver 35.

[0023] When the network reference flag 36 "has not been accessed", a printer driver 35 asks the access propriety to driver offer equipment 1 to the network computation section 33. When for example, a printing demand is received, it may be made to perform this. In this case, a user may be preferably asked for decision on an interface screen etc. about whether a printer driver is updated. When it can access to driver offer equipment 1, it directs to download the newest driver program. If the newest driver program downloads, the install processing section 32 will install by updating the network reference flag 36 to "finishing [access]." Thereby, a printer driver 35 is updated by the newest thing.

[0024] Moreover, when an update carbon button is pushed on the interface screen which is not illustrated and directions of update of a driver are received from a user, regardless of the contents of the network reference flag 36, a program may be downloaded from driver offer equipment 1, and a driver may be updated.

[0025] The network computation section 33 performs other equipments and communication link which connect with a network 9 and are connected to the network 9. For example, the network computation section 33 judges whether it is accessible to driver equipment 1. The addresses on the network of driver offer equipment 1 (for example, an IP address, URL (Uniform Resource Locator), etc.) are memorized for example, in the network program 42. When it cannot access to driver offer equipment 1, the network computation section 33 notifies that to the install processing section 32. When accessible, the network computation section 33 acquires identification information 41a to driver offer equipment 1 through the install control section 32, and transmits to it to driver offer equipment 1.

[0026] With driver offer equipment 1, it judges whether the driver program 41 memorized by CD-ROM4 is the newest based on identification information 41a. That is, it judges whether the driver program 41 memorized by CD-ROM4 is the newest thing in the driver program corresponding to the same printer kind.

[0027] The network computation section 33 receives the judgment result. When the driver program 41 in CD-ROM4 is not the newest, the network computation section 33 downloads the newest driver program from driver offer equipment 1, and stores it in a buffer 34.

[0028] Moreover, when two or more driver programs for printer drivers corresponding to each language exist in driver offer equipment 1, the printer host 2 may display the selection screen 100 as shown in the display which is not illustrated at drawing 6. Driver offer equipment 1 offers the information for displaying the selection screen 100. The selection field 110,120,130,140 of each language is displayed on the selection screen 100. A user chooses one of the selection fields 110,120,130,140. The network computation section 33 may download the driver program of the language which the user chose in the selection screen 100.

[0029] In addition, decision whether the driver program 41 in CD-ROM4 is the newest may acquire identification information from driver offer equipment 1, and may be performed by the printer host 2.

[0030] Next, the flow chart of drawing 4 explains the flow of the processing at the time of the setup of a printer driver.

[0031] If a user directs install of a driver program to the printer host 2, an installer 43 and the network program 42 will be read, respectively, and the install processing section 32 and the network computation section 33 will be realized (S101). Then, the network computation section

33 judges whether it is accessible to driver offer equipment 1 (S102).

[0032] When it cannot access, the install processing section 32 installs the driver program 41 memorized by CD-ROM4 (S111).

[0033] When accessible, the network computation section 33 accesses to driver offer equipment 1, and transmits identification information 41a of the driver 41 in CD-ROM4 (S103). When the driver 41 in CD-ROM4 is the newest driver (S104:Yes), the driver program 41 memorized by CD-ROM4 is installed (S111).

[0034] When the driver program 41 in CD-ROM4 is not the newest (S104:No), the network computation section 33 downloads [the install processing section 32] the newest driver (S105). Then, the install processing section 32 installs the downloaded driver program.

[0035] Thereby, the environmental user who can connect with a network can install the newest driver program at the time of the setup of a printer driver. On the other hand, the user who cannot connect with a network can install a driver program from CD-ROM as usual.

[0036] Next, the user who can connect now with a network explains the procedure which installs the newest driver program after the setup of a printer driver using drawing 5.

[0037] A printer driver 35 receives a printing demand (S121). Here, a printer driver 35 checks whether the network reference flag 36 "has not been accessed" (S122). When "having not accessed" the network reference flag 36, it checks whether the network computation section 33 can access to driver offer equipment 1 (S123). When it can access to driver offer equipment 1, it checks [whether it downloads and or not] to a user (S124). When the approval of a user is acquired, it checks whether the driver program in driver offer equipment 1 is newer than a thing [finishing / install] (S125). When there is a new driver program, the network computation section 33 downloads it (S126). And the driver software which the install processing section 32 downloaded is installed, a printer driver is updated, and the network reference flag 36 is set as "finishing [access]" (S127, S128).

[0038] Consequently, the user who cannot connect with a network at the beginning at the time of a setup can also acquire the newest driver via a network, when network connection becomes possible.

[0039] In addition, each configuration explained in the above-mentioned operation gestalt can carry out modification of combination, an addition, an abbreviation, etc. as much as possible.

[0040]

[Effect of the Invention] According to this invention, either can be installed among two or more driver programs, and a printer driver can be set up.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the configuration of the network system concerning 1 operation gestalt which applied this invention.

[Drawing 2] It is drawing showing the information memorized by CD-ROM4.

[Drawing 3] It is drawing showing the printer host's 2 functional configuration.

[Drawing 4] It is the flow chart which shows the procedure of a setup of a printer driver.

[Drawing 5] It is the flow chart which shows the procedure of renewal of a printer driver.

[Drawing 6] It is drawing showing an example of the selection screen 100 which chooses the language of a printer driver.

[Description of Notations]

- 1 -- Driver offer equipment
- 2 -- Printer host
- 3 -- Printer
- 4 -- CD-ROM
- 9 -- Network
- 31 -- CD drive control section
- 32 -- Install processing section
- 33 -- Network computation section
- 34 -- Buffer
- 35 -- Printer driver
- 36 -- Network reference flag
- 41 -- Driver program
- 42 -- Network program
- 43 -- Installer.

[Translation done.]